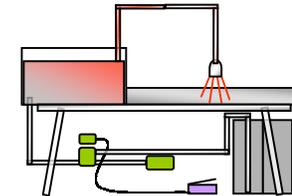
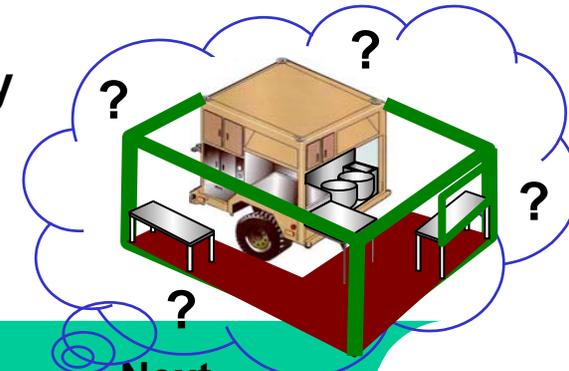


Field Kitchen Technology Evolution

PM - Soldier Support



Technology Insertion



Research

- Cogeneration
- Thermal Fluid Heat Transfer
- Superheated Liquid Injection Cogeneration
- Sanitation
- Refrigeration

Development

- Highly Mobile
- Integrated Sanitation
- Integrated Refrigeration
- Integrated Power Generation
- Environmental Protection
- Reduced Deployment Time

Next Generation Kitchen

Goal:
Replace MKT and KCLFF in the Objective Force

1995

2005

FUE 2010

Battlefield Nutrition Delivery System (BNDS)

PM - Soldier Support

System Description

MISSION:

To Replace the MKT & KCLFF With a Field Feeding Platform Capable of Feeding up to 300 Personnel 3 Hot Cook Prepared Meals Per Day

CHARACTERISTICS

- Modern, commercial grade appliances
- Thermostatic control of food service equipment
- Environmental control
- On board refrigeration

SPECIAL FEATURES

- Cogeneration to provide electrical power
- May incorporate centralized heating technology

CAPABILITY IMPROVEMENTS

- Roll-on/roll-off for rapid deployment
- Integral sanitation capability
- Operational to -25F unlike MKT
- Better thermal efficiency
 - uses less fuel
- Removes combustion by-products from kitchen
- Reduced set-up time
- Improves reliability and maintainability
- Reduces overall kitchen quantity

CONTRACT INFORMATION

- Contractor TBD

Battlefield Nutrition Delivery System (BNDS)

PM - Soldier Support

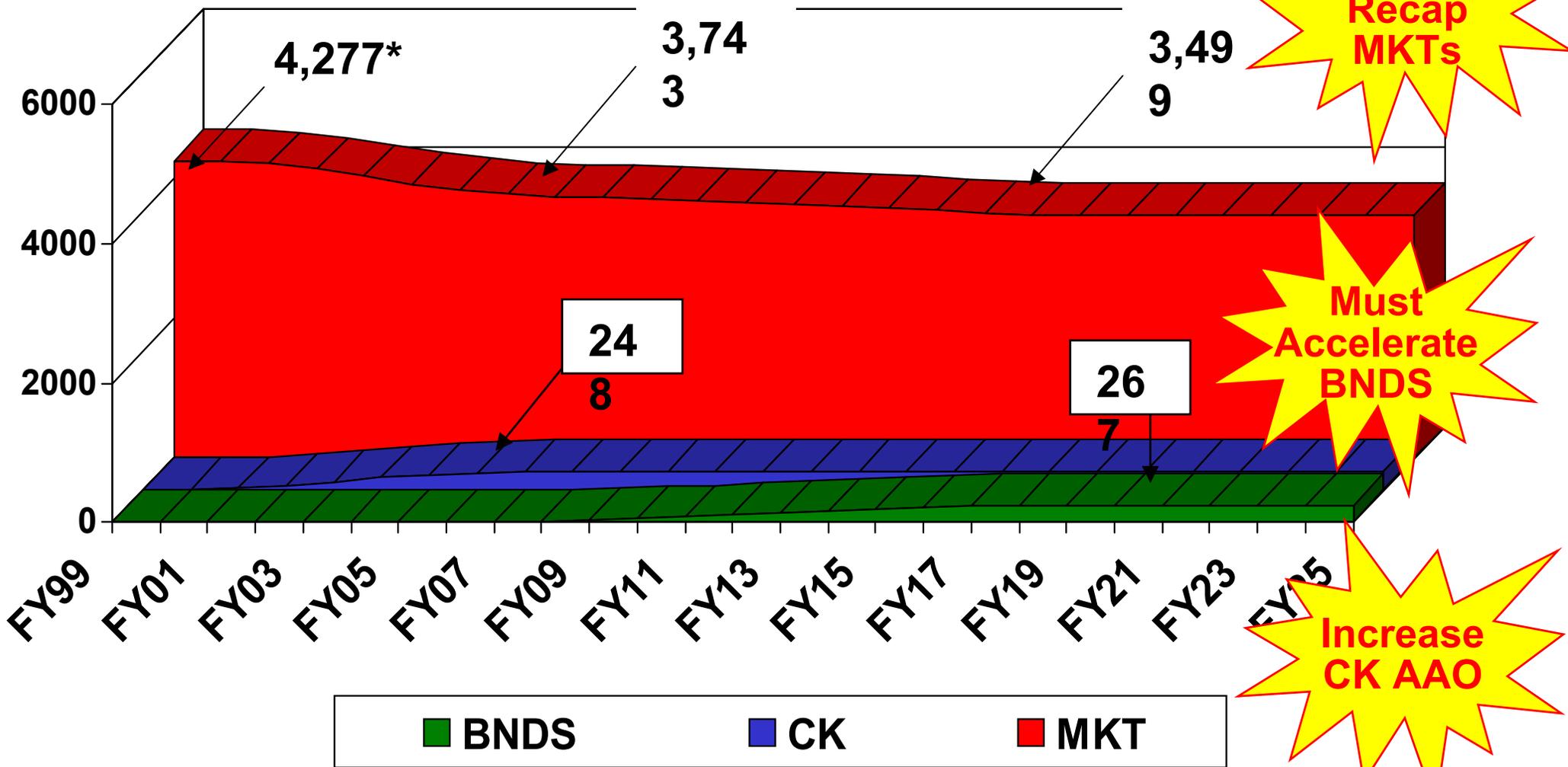
Status/Key Issues

- **Initial market investigation completed; surveillance continuing**
- **Operational Requirements Document drafted**
- **Technical challenges**
 - A lot of capability...
 - Power generation
 - Refrigeration
 - Sanitation
 - Environmental control
 - Water production
 - In a small package
 - Limited size and weight
 - Roll-on/roll-off capability
 - HMMWV towable (objective)
- **Research phase FY02-04**
- **Development phase FY05-07**
- **Initial procurement planned in FY08**

Field Kitchen Fleet Snapshot

PM - Soldier Support

3,499 MKTs Will Remain in the Field After FY17 at Present Funding Levels



Must Recap MKTs

Must Accelerate BNDS

Increase CK AAO

*4,277 MKTs shown in TAV



MKT Recapitalization

PM - Soldier Support

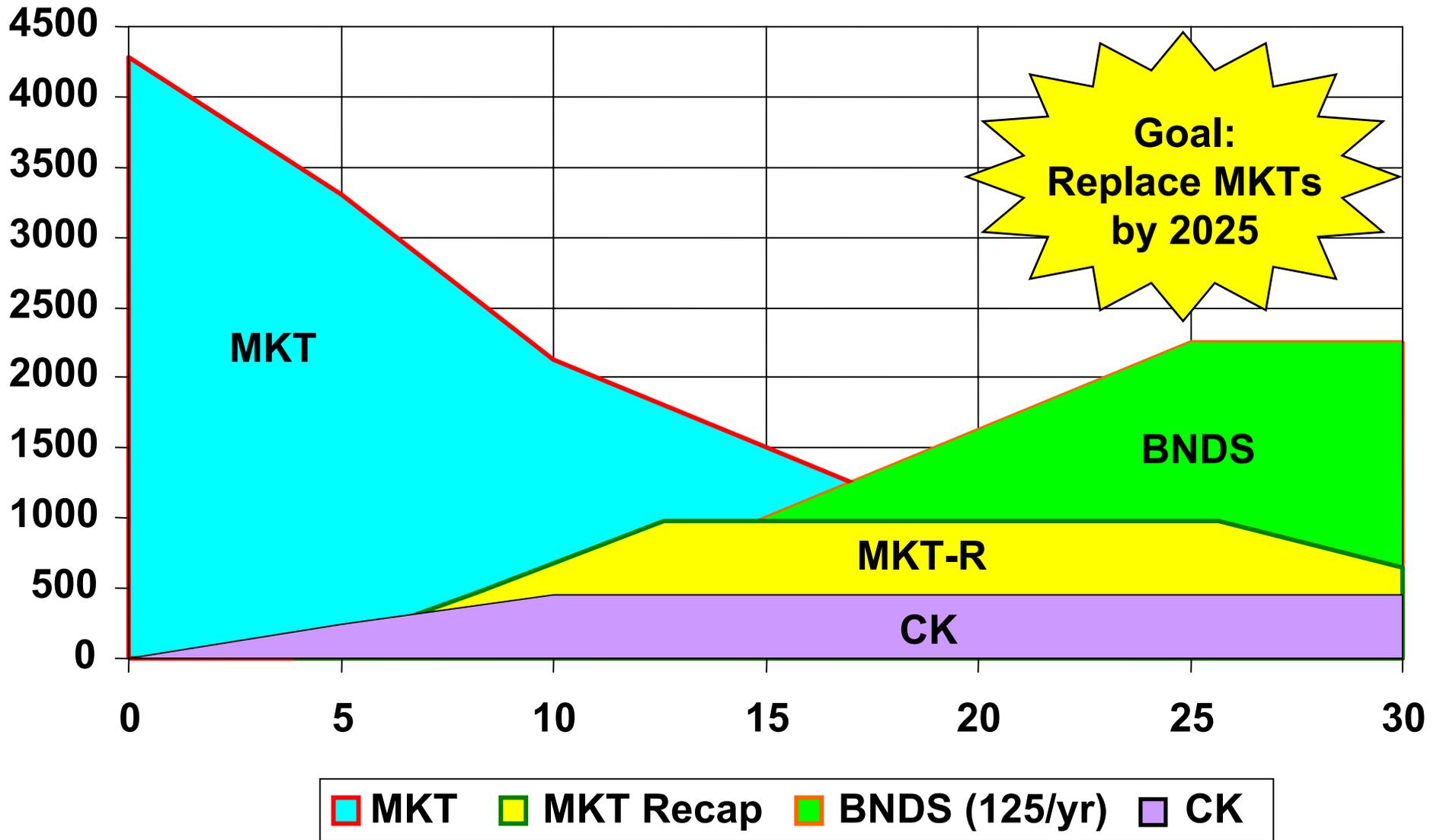
Strategy

- **Draft Depot Maintenance Work Requirement**
 - Currently working with Letterkenny Army Depot
- **Develop SOW and cost estimate**
- **Garner support for immediate funding and in FY04-09 POM**
- **Solicit bids from capable depots and arsenals**
- **Start with depot unserviceable MKTs (currently 77)**
- **Continue at a nominal rate of 100-200 per year (Est. \$4-8M per yr.)**
- **Market Recap program to RC/NG and MACOMs**
- **Relook Recap program in FY04 (for FY06-11 POM) based on BNDS status**

Recapitalization: The rebuild and selected upgrade of currently fielded systems to “zero-time/zero-life” condition

Overall Field Kitchen Strategy

PM - Soldier Support



Note: Chart is not cumulative; reflects separate kitchen quantities

Food Sanitation

PM - Soldier Support

Field Expediencies - Fort Polk Sep 99



Food Sanitation Evolution

PM - Soldier Support

Immersion Heater



- Burns gasoline
- Hazardous lighting procedure
- No automatic fuel shut off if flame goes out
- Cannot clean kitchen equipment

Food Sanitation Center



- Uses three burners
- Burners underneath sinks
- MILSTD sinks and racks

Advanced Food Sanitation Center



- Uses single burner
- Uses commercial sinks and racks
- Lighter, smaller, less expensive

“First time in my 15 years in the Army that I’ve seen sanitation done correctly.”- SFC Whitney, 10th FSB, JCF AWE, Sep 00

Food Sanitation Center (FSC)

PM - Soldier Support

System Description



MISSION:

Provide the Capability to Sanitize Food Service Equipment in a Field Environment

CHARACTERISTICS

- Three sink sanitation process
- Burner under each sink provides direct heating
- Drying & storage racks
- Drain tables & work tables
- Garbage cans

SPECIAL FEATURES

- System supports
 - Modular Field Kitchen (MFK)
 - Mobile Kitchen Trailer (MKT)
 - Containerized Kitchen (CK)
- M2 burners being replaced by MBUs

CAPABILITY IMPROVEMENTS

- Replaces immersion heater & 32 gallon garbage can system
- Provides a complete sanitation facility
- Housed inside a TEMPER tent

CONTRACT ISSUES

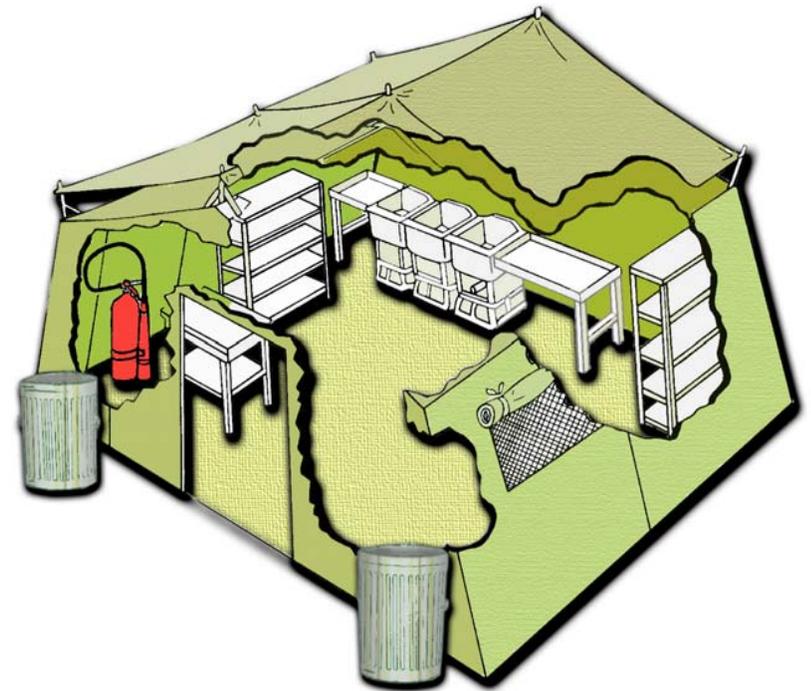
- Last produced by Rock Island Arsenal, IL
- Will be superceded by new Advanced FSC in FY01

Food Sanitation Center (FSC)

PM - Soldier Support

Key Issues/Status

- 4,502 FSCs required
- 829 fielded through FY00
- Distribution of assets at Sierra Army Depot (SIAD) held up by Second Destination Transportation (SDT) and Supply Depot Operations (SDO) funding shortfalls
- 135 FSCs to be fielded from SIAD in FY01
- TM revised to reflect changes in TEMPER tent
 - No longer requires vestibule components
- Production transitioning to AFSC



Advanced Food Sanitation Center (Adv. FSC)

PM - Soldier Support

System Description

MISSION:

Enhance the Capability to Clean/Sanitize Food Service Equipment and Control Field Kitchen Gray Water



CHARACTERISTICS

- Three sink sanitation process
- Single burner operation
- Steam generator for water heating
- Commercial drying/storage racks
- Drain tables & work tables
- Commercial grease separator
- Housed inside MGPTS tent
- Waste water treatment (objective)

SPECIAL FEATURES

- Supports
 - Modular Field Kitchen (in DEPMEDS)
 - Mobile Kitchen Trailer (MKT)
 - Containerized Kitchen (CK)
- Uses MBU burner

CAPABILITY IMPROVEMENTS

- Replaces remaining immersion heaters/32 gallon garbage cans
- Reduces
 - Weight, cube and cost
 - # Of burners from 3 to 1
 - Water consumption
- Improves
 - Sanitation effectiveness
 - Safety & comfort of operators

CONTRACT INFORMATION

- Procurement beginning in FY01
- Contractor TBD

Advanced Food Sanitation Center (Adv. FSC)

PM - Soldier Support

Status/Key Issues

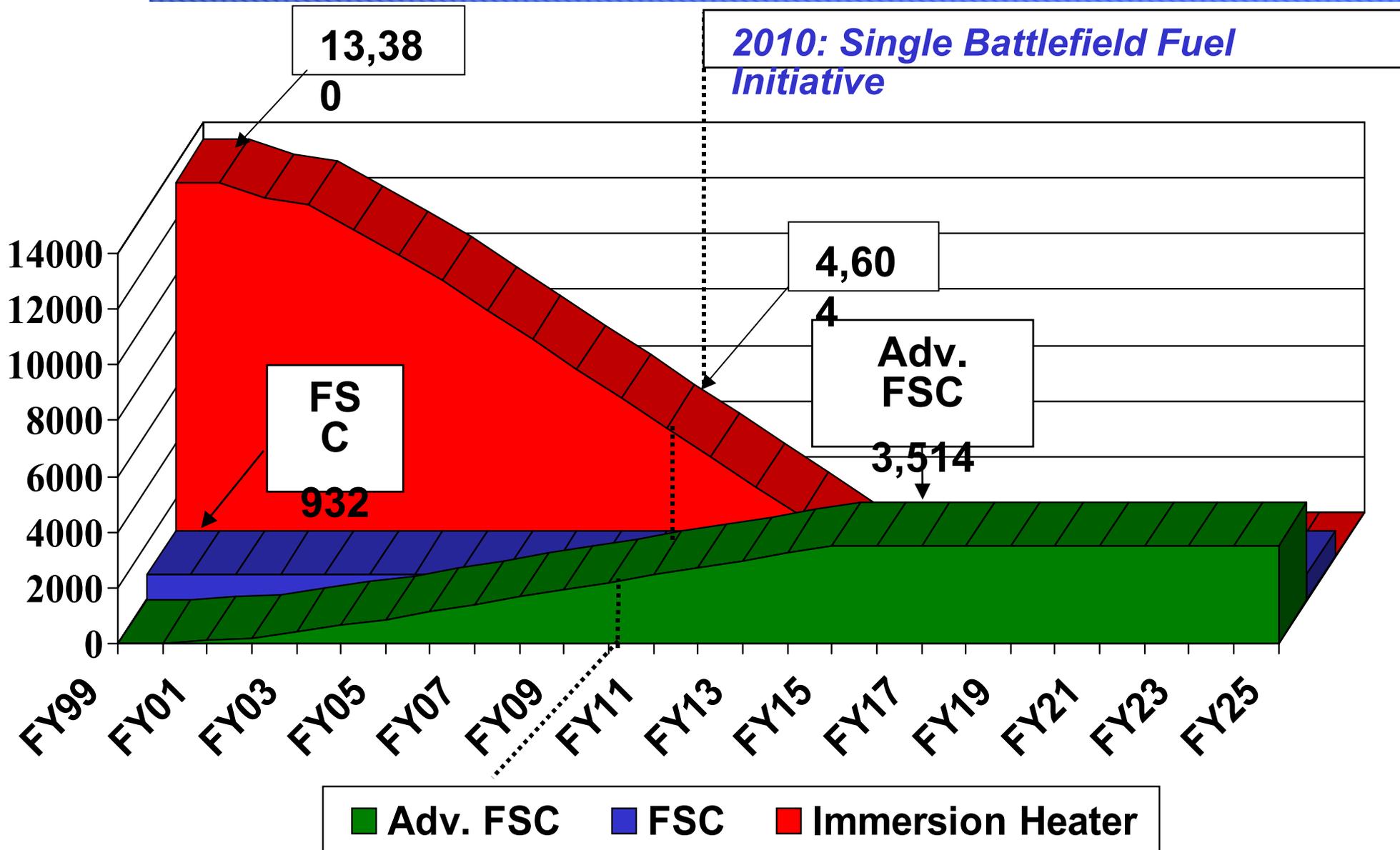
- Adv. FSC prototypes used in CK IOTE at Fort Bragg in Apr 00 and JCF AWE at Fort Polk in Sep 00
- Program delayed when Army removed from joint buy with USMC due to “Arsenal Act” issue May 00
- Acquisition strategy revised to LRIP for FY01 Jun 00
- Make/buy analysis completed with “buy” decision Nov 00
- Qualification testing completed 28 Feb 01 at Aberdeen Test Center
- Preparing documentation for Milestone C
- Purchase description being updated for procurement
- Initial fielding projected for Jun 02
- Fielding in accordance with HQDA distribution list
- **Low level of funding will stretch fielding to FY16**
- **Funding to finish by 2010 about \$12.2M per year**



Food Sanitation Fleet Snapshot

PM - Soldier Support

**4,604 Gasoline Burning Immersion Heaters Will Remain in the Field in FY10
At Present Funding Levels**

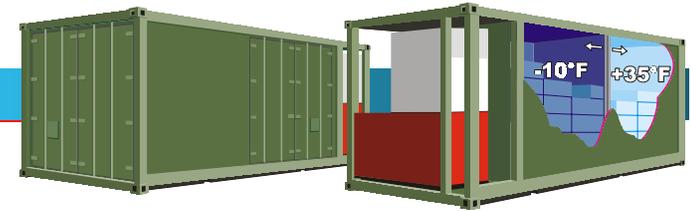


Based on \$9.0M AFSC Funding Through

Multi-Temp Refrigerated Container System (MTRCS)

PM - Soldier Support

System Description



MISSION:

A Mobile, Multi-Temperature Refrigerated Container System to Distribute & Store Mixed Load Shipments From Fresh Chilled Produce to Deep Frozen Cargo

CHARACTERISTICS

- Single 8x8x20 container with multi temperature capabilities
- Moveable partition
- Single engine driven refrigeration unit
- Two evaporator units – one per compartment
- Side and end access doors

SPECIAL FEATURES

- Compartment volume can be adjusted to the load

CAPABILITY IMPROVEMENTS

- More efficient ration distribution
- Flexibility for transporting fresh & frozen products at the same time
- Reduced logistics foot print
 - Performs mission of two standard refrigerated containers
- Stores 2 days rations for 800 soldiers (supports IBCT)

CONTRACT ISSUES

- New procurement in FY04
- Contractor TBD

Multi-Temp Refrigerated Container System (MTRCS)

PM - Soldier Support

Key Issues/Status

- ORD drafted
- New start in FY01
- Preparing RFP
- CASCOM CEP submitted
 - Concept testing at Operation Roving Sands, Ft. Bliss, TX
- Production funding UFR
- Fielding to Perishable Subsistence Platoons (21 each)
- Fielding to IBCTs (6 each)



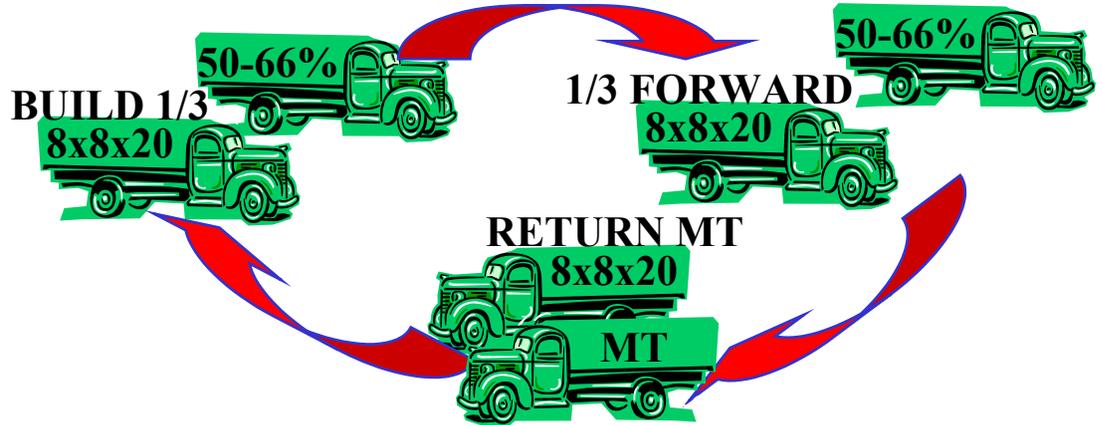
PSP Operations

PM - Soldier Support



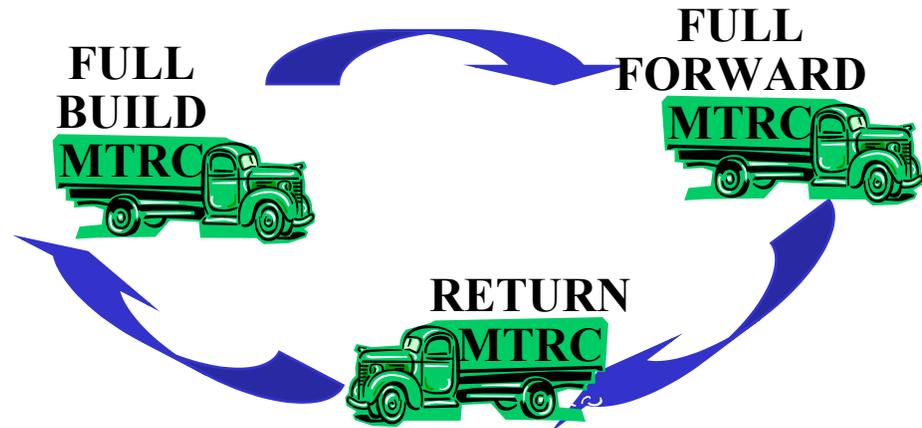
CURRENT

- 21 8x8x20 Reefers



FUTURE

- 21 MTRC



Improves Utilization!

Maximizes Loads!



Army Field Feeding Systems Update

PM - Soldier Support

QUESTIONS?